

X<sup>2</sup> = CO, CS or SO<sub>2</sub>

X<sup>3</sup> = O, S, CH<sub>2</sub>, CF<sub>2</sub>, CFH,  
 NH, NCH<sub>3</sub>

Figure 1

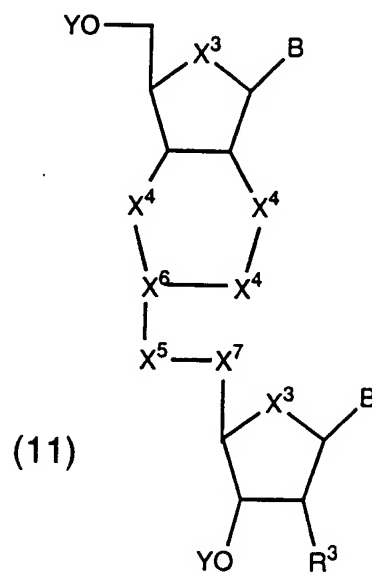
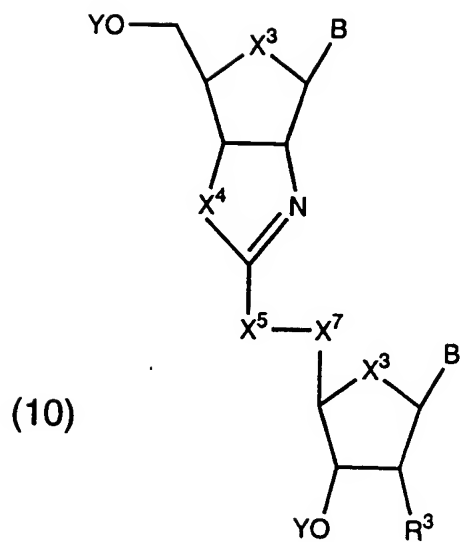
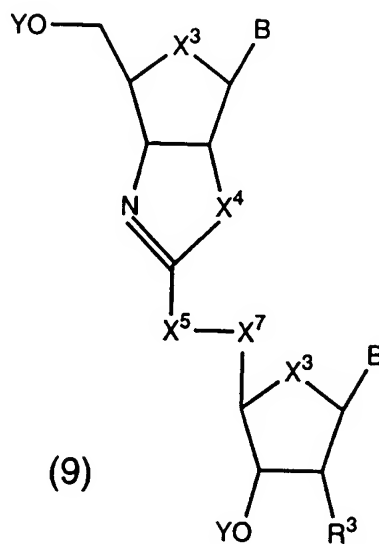
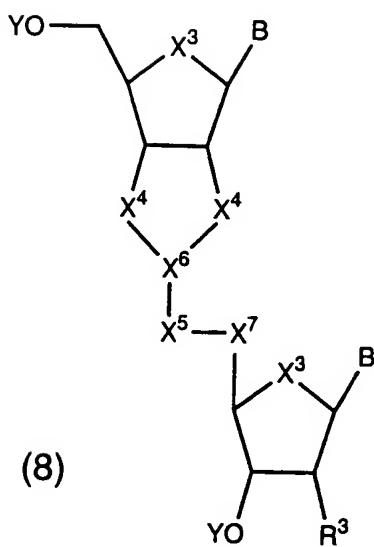


Figure 2

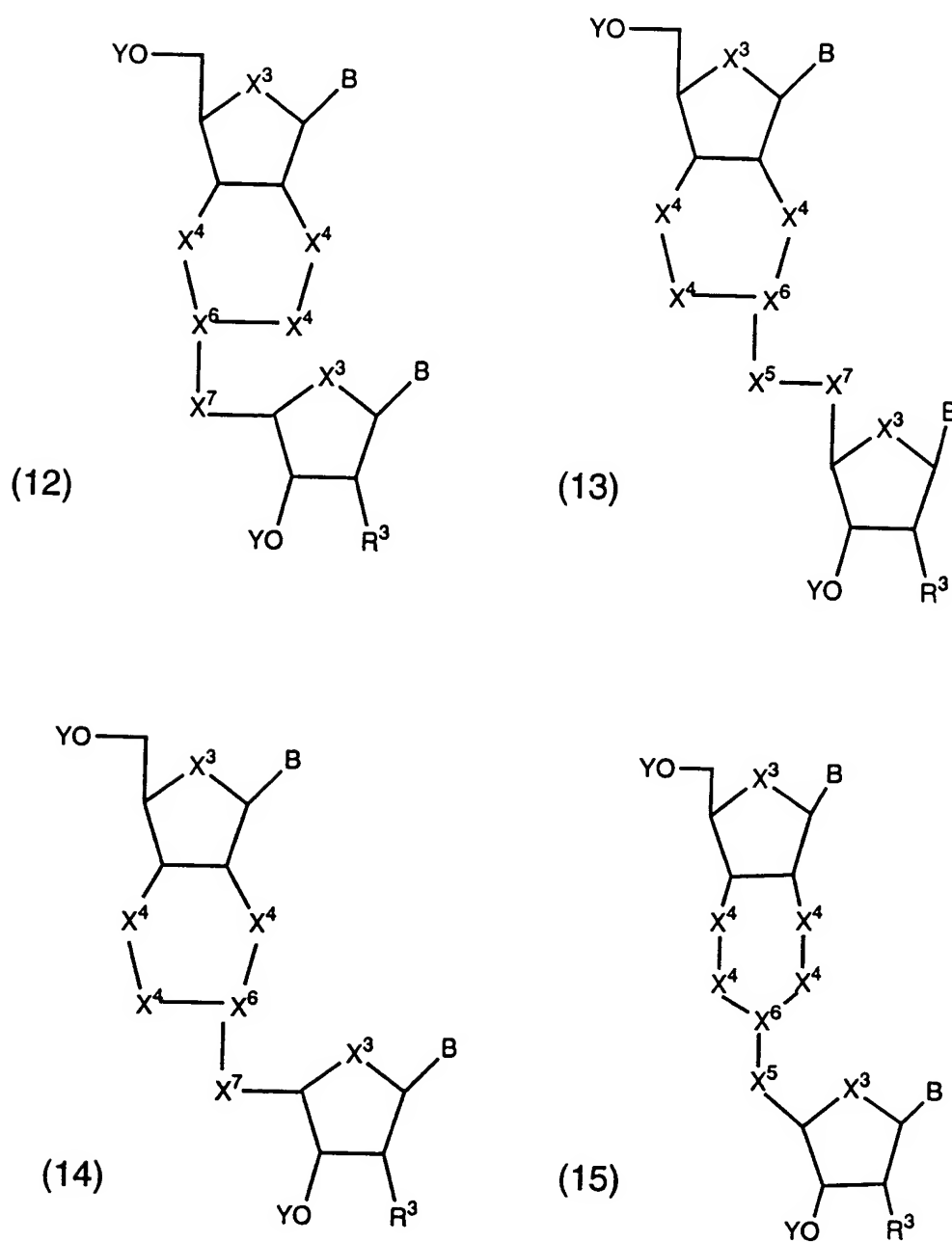


Figure 3

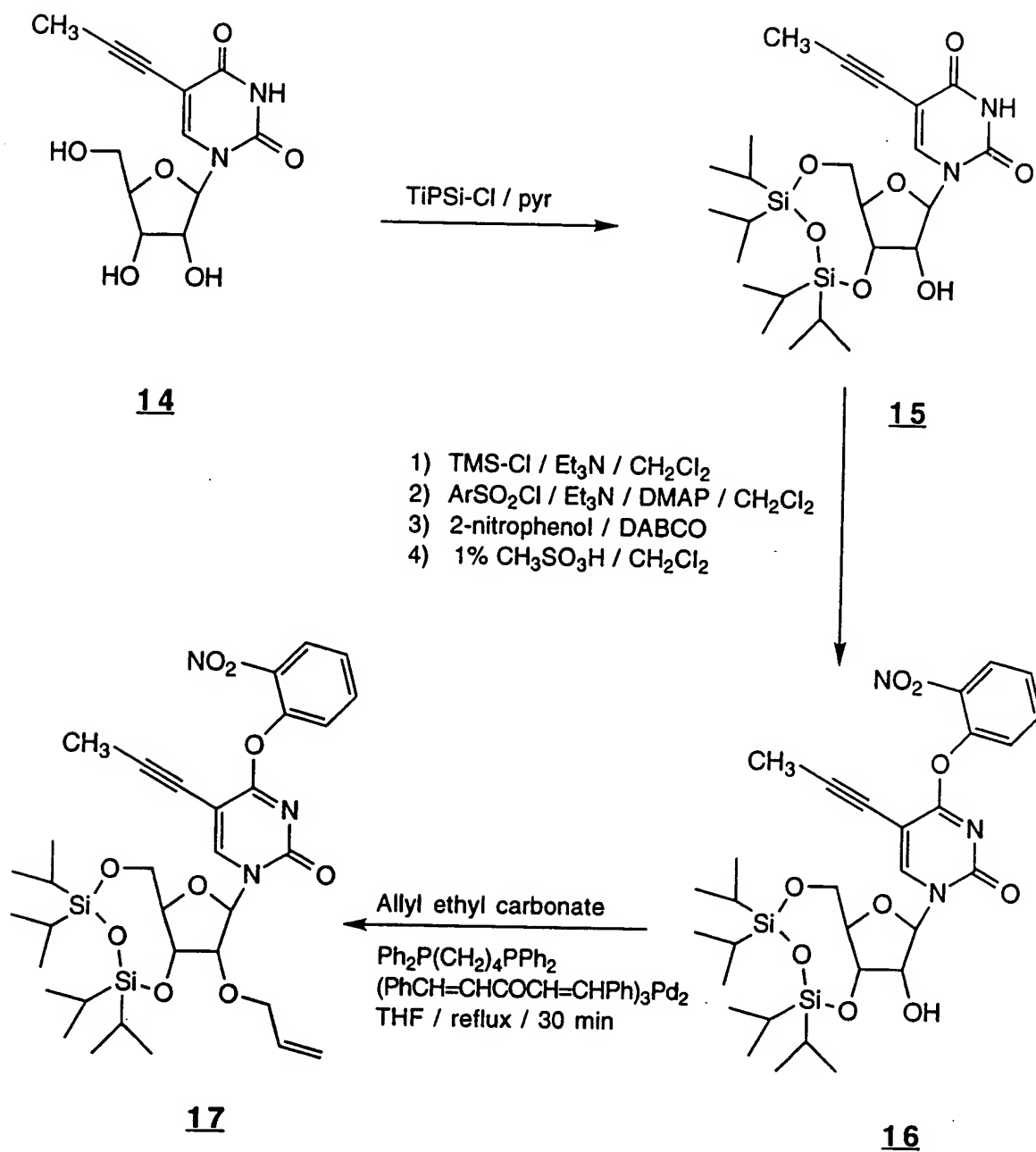


Figure 4-1

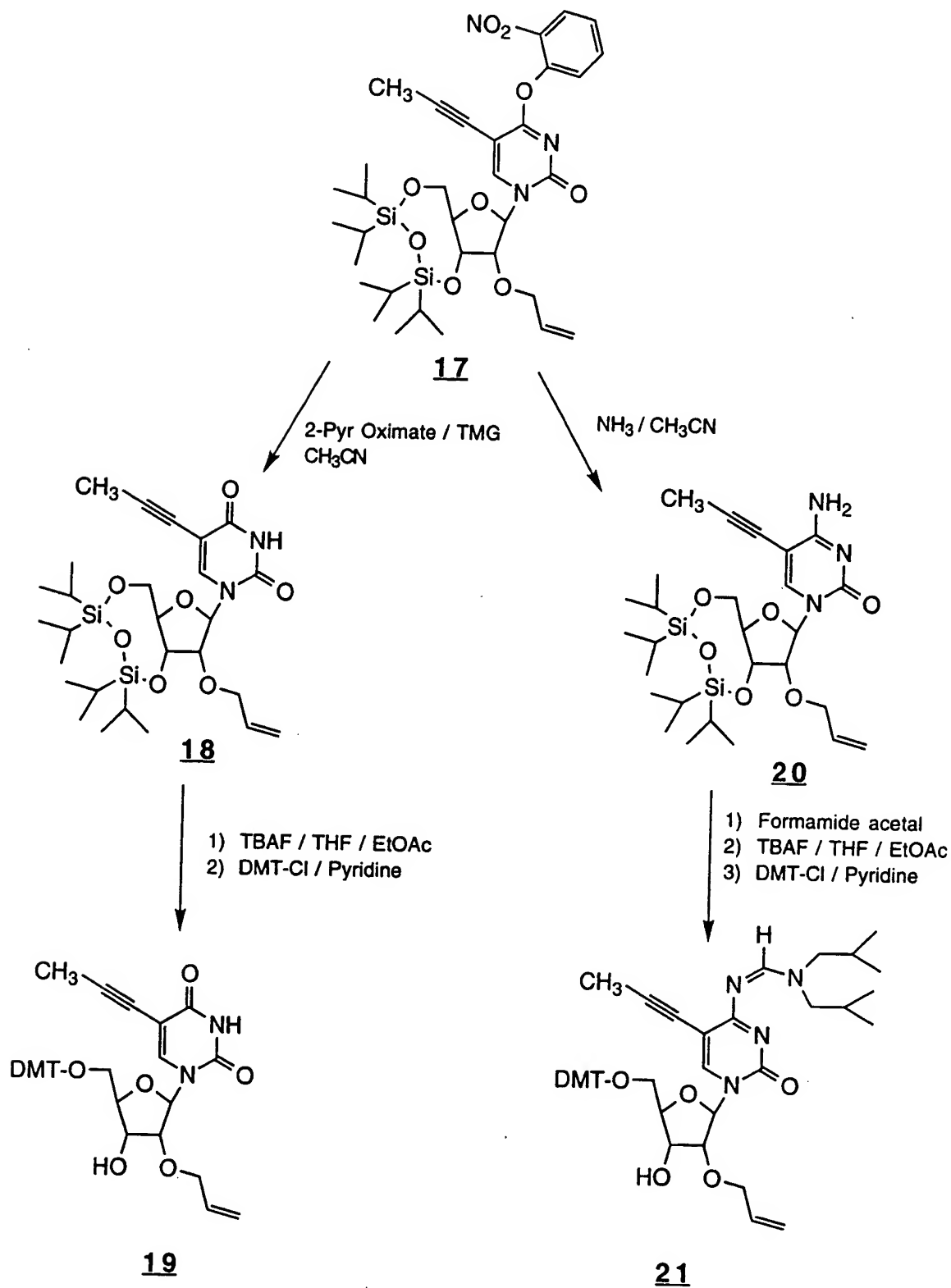


Figure 4-2

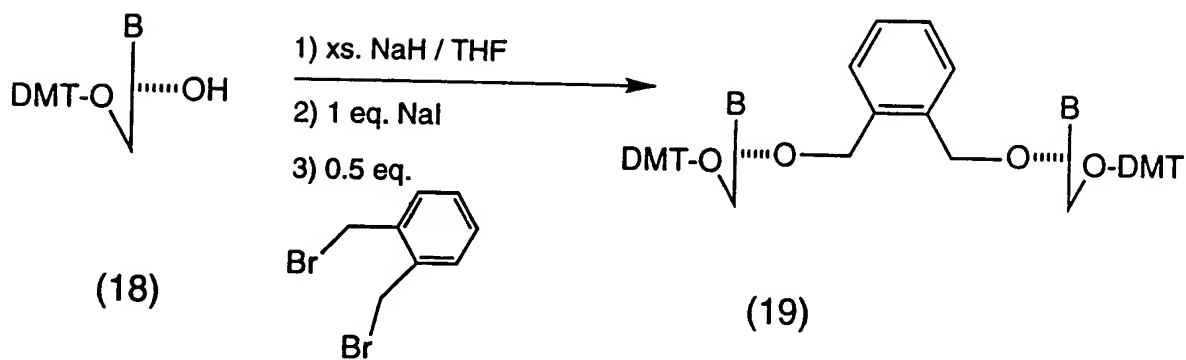
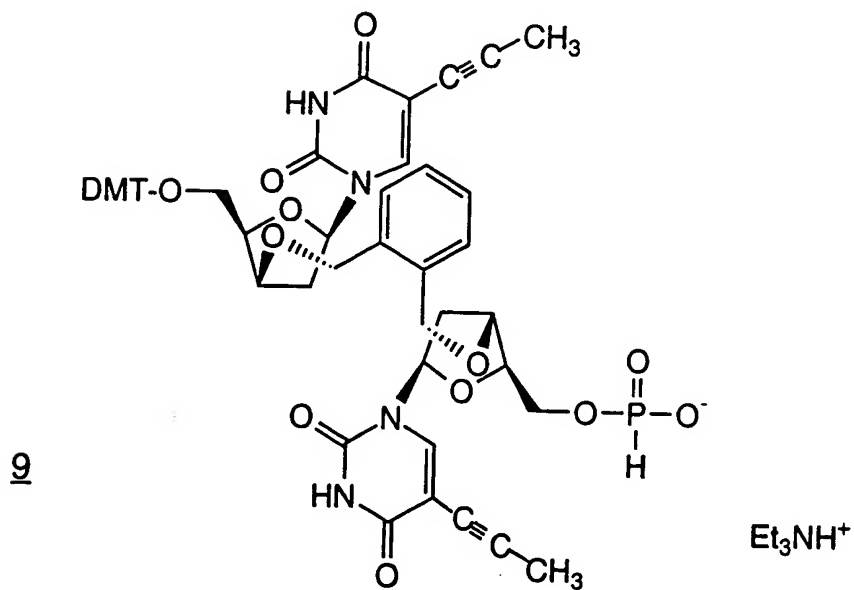


Figure 5-1

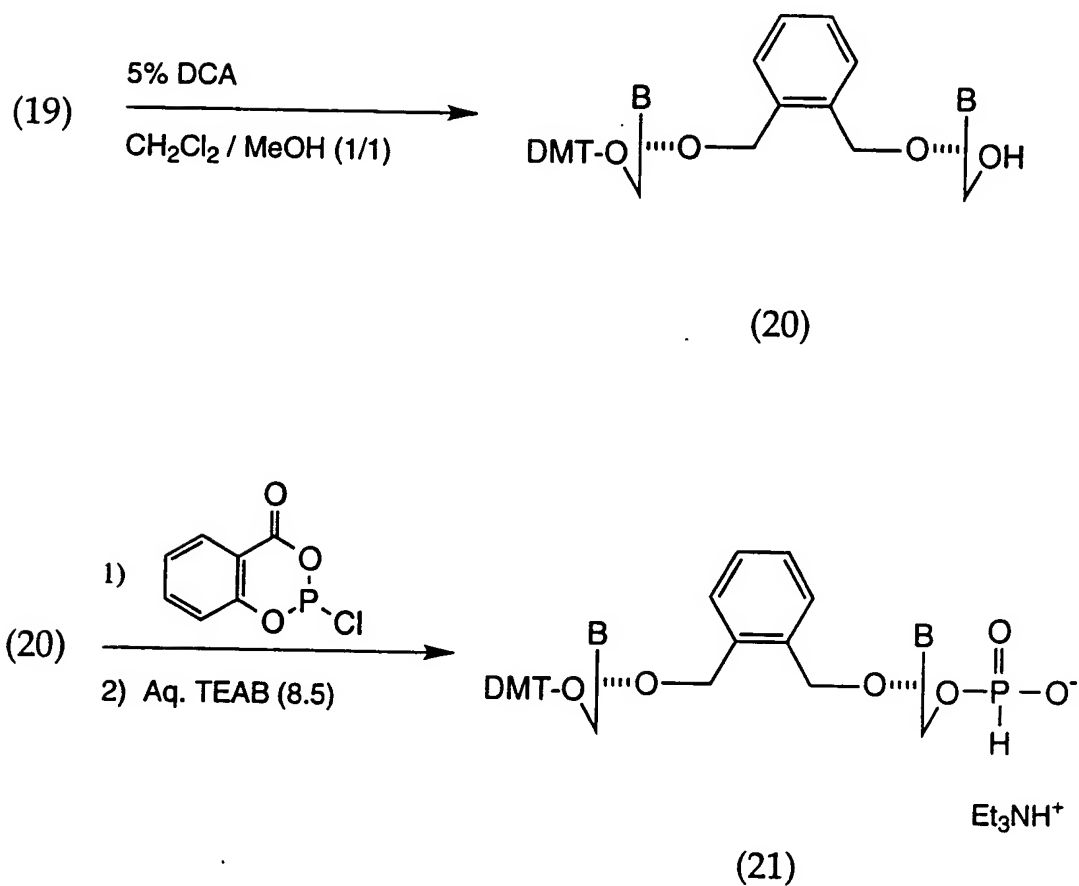


Figure 5-2

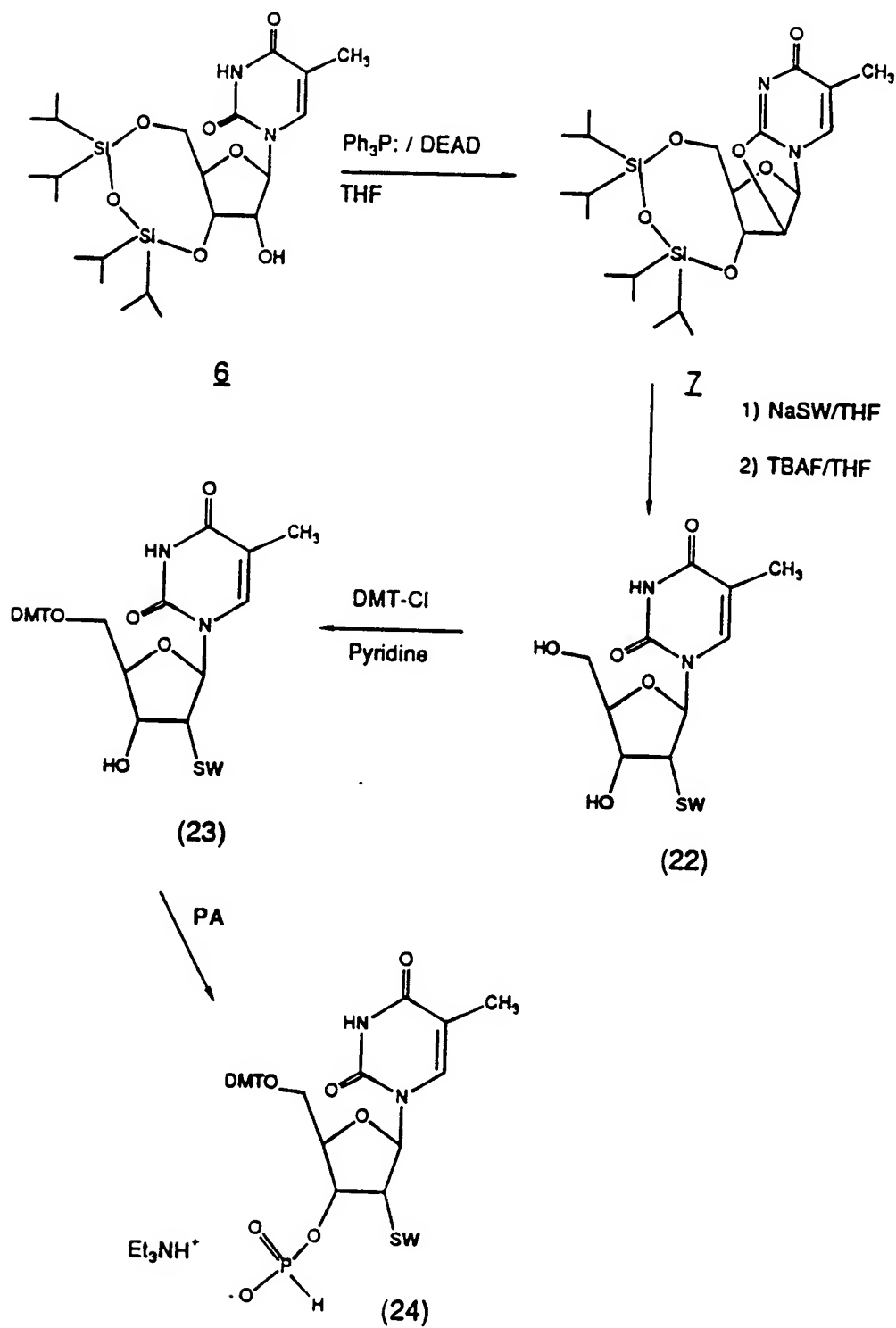


Figure 6



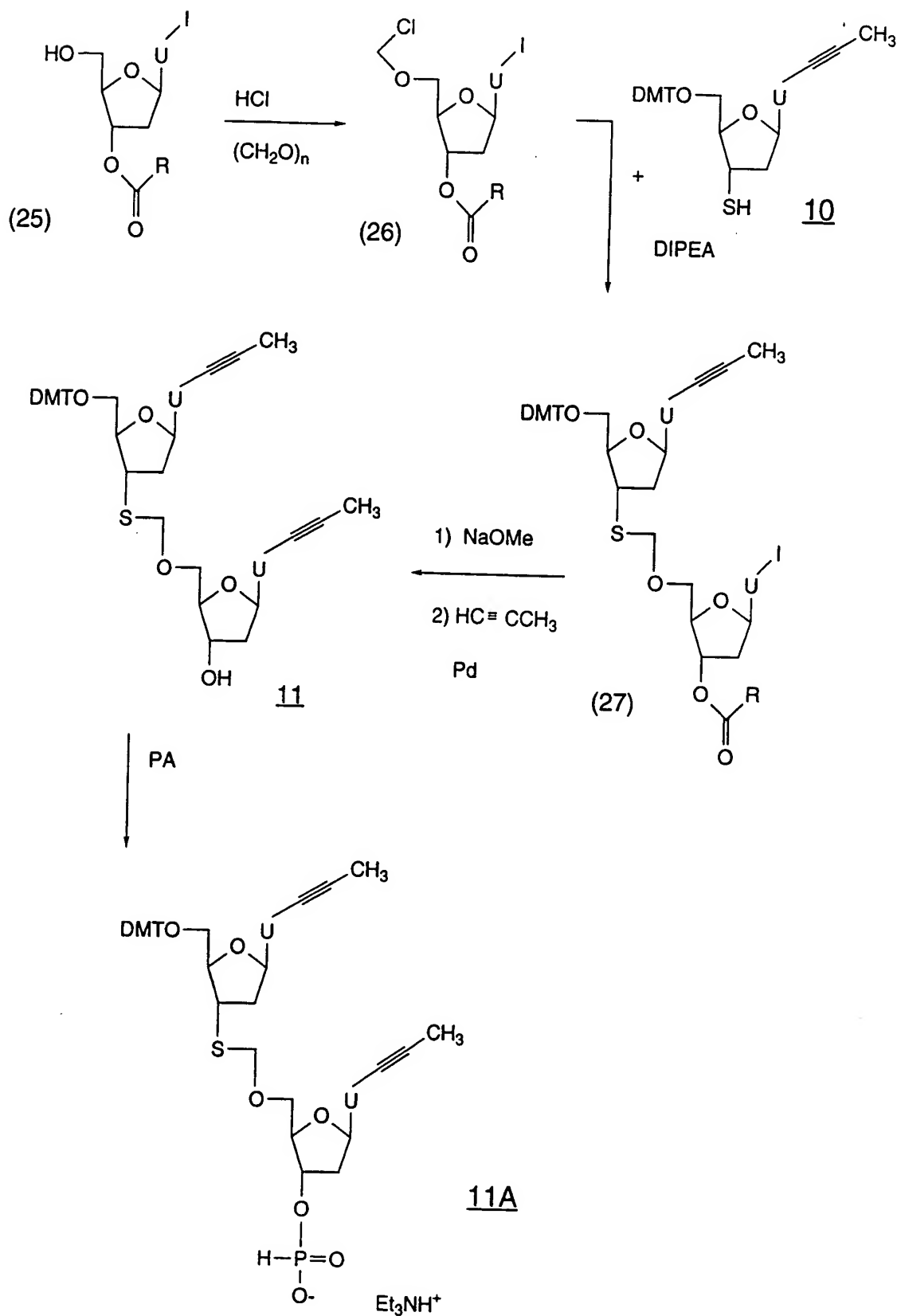


Figure 7

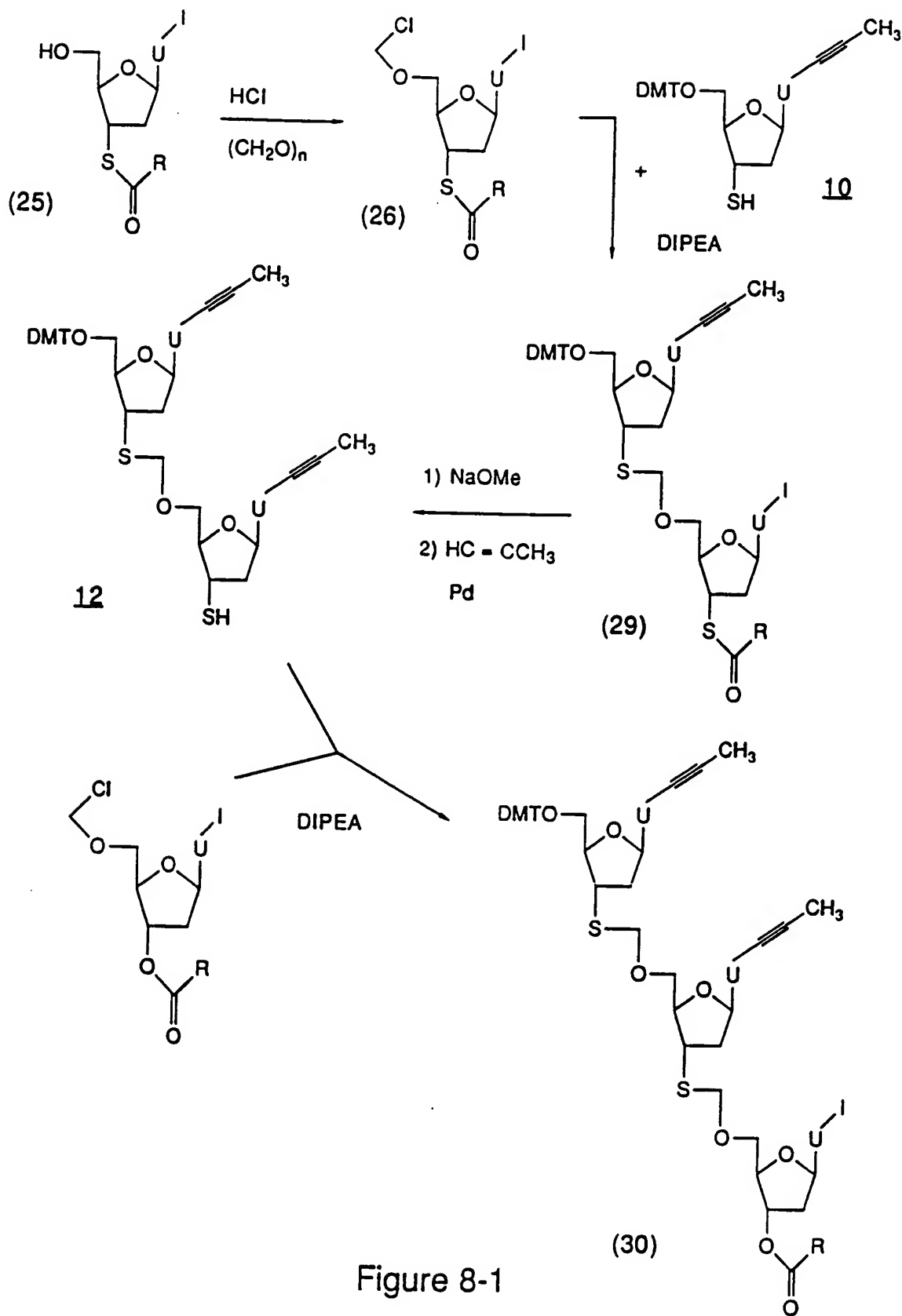


Figure 8-1

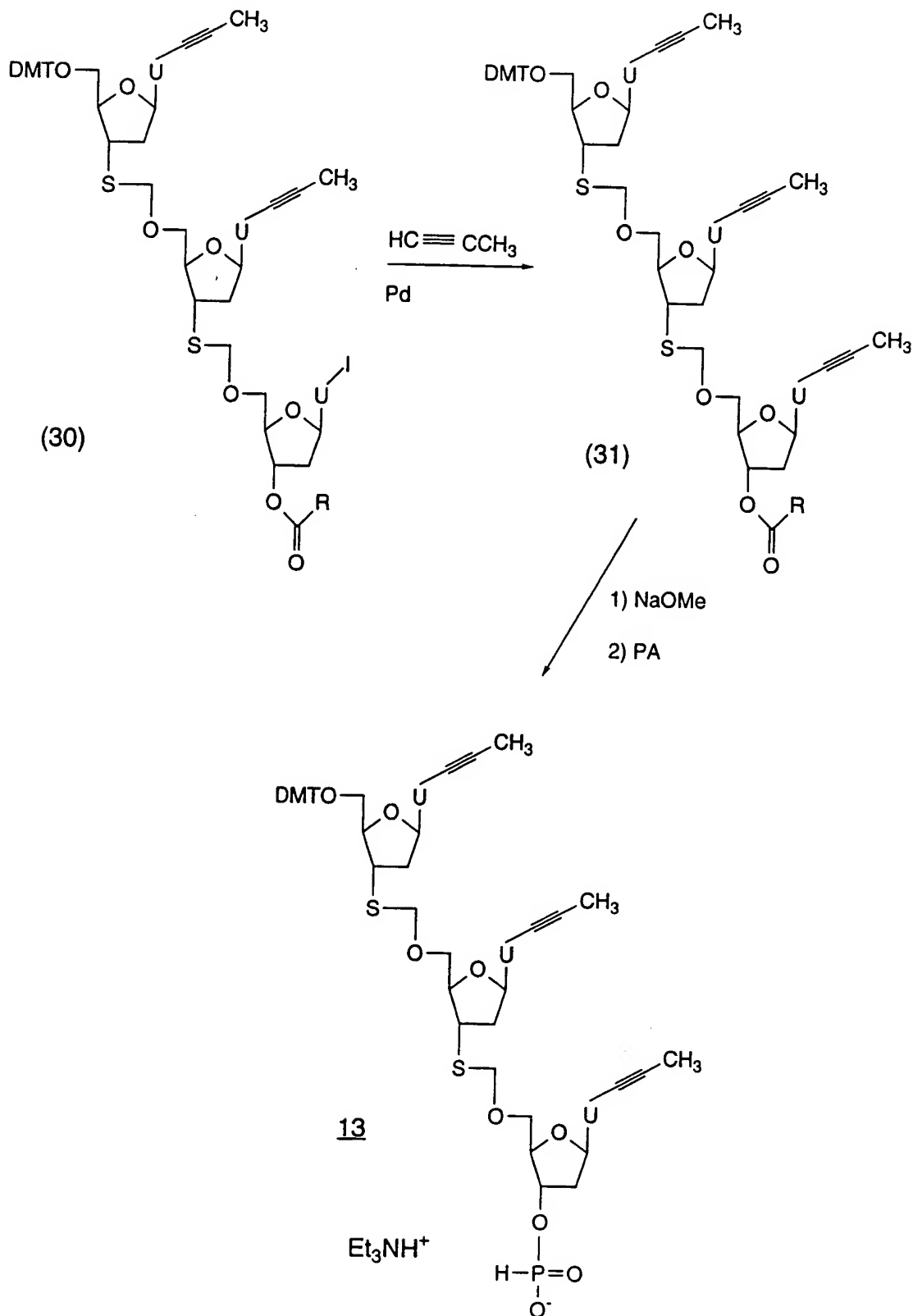


Figure 8-2

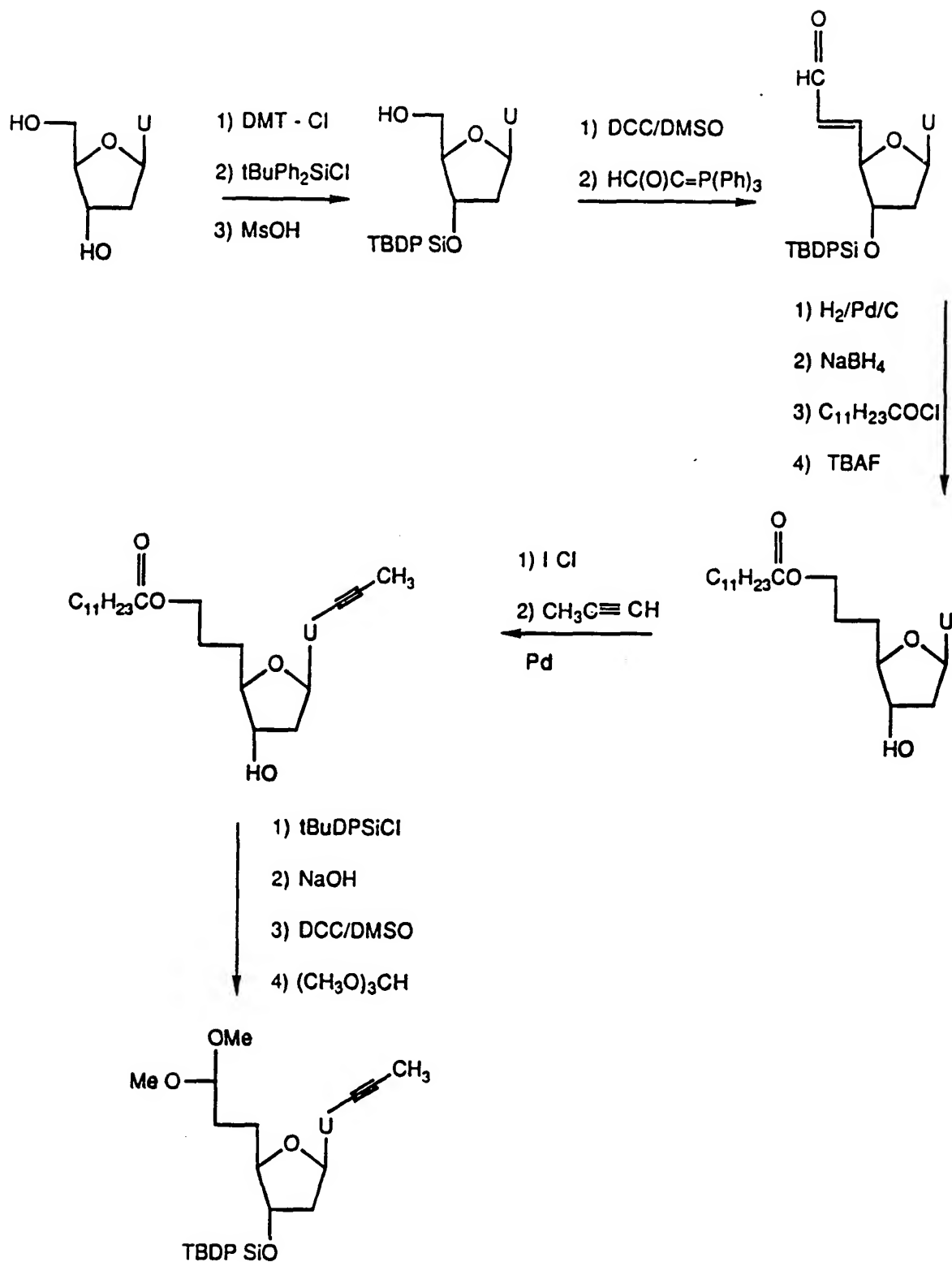


Figure 9-1

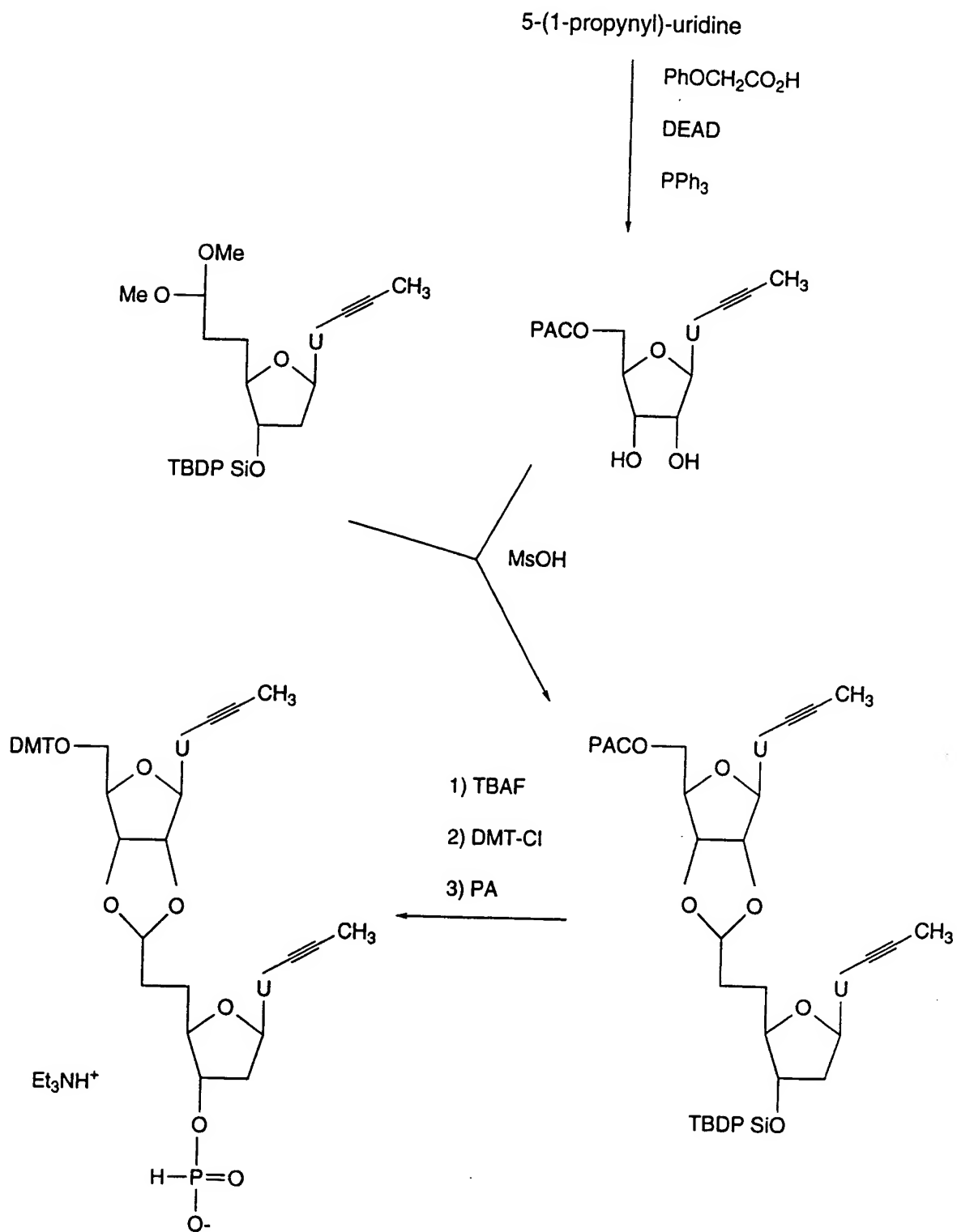
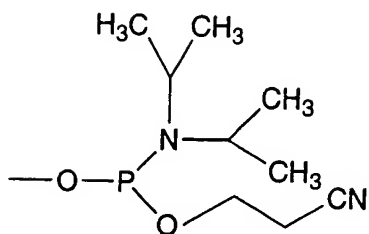
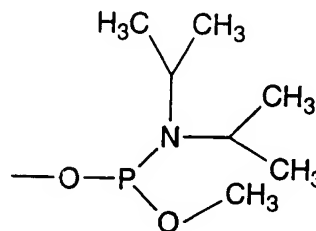


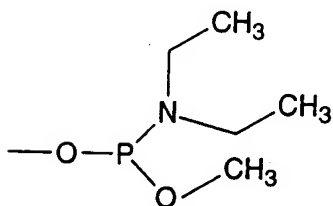
Figure 9-2



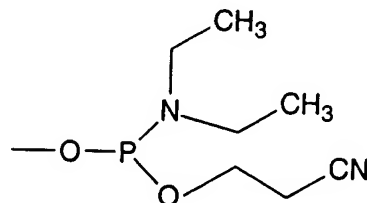
N,N-diisopropylamino- $\beta$ -  
cyanoethoxyphosphine



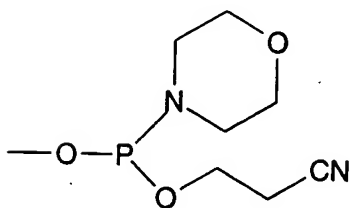
N,N-diisopropylamino-methoxy-  
phosphine



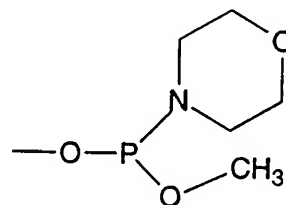
N,N-diethylamino-methoxy-  
phosphine



N,N-diethylamino- $\beta$ -cyanoethoxy  
phosphine

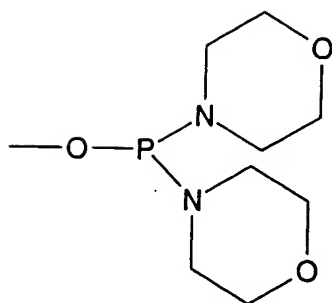


N-morpholino- $\beta$ -cyanoethoxyphosphine

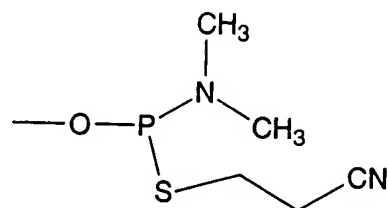


N-morpholino methoxyphosphine

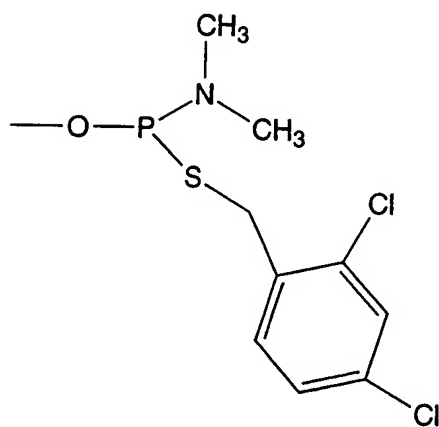
Figure 10-1



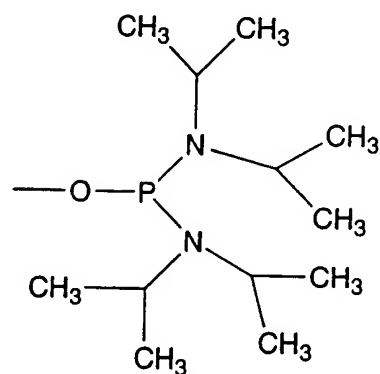
Bis morpholino-phosphine



N,N-dimethylamino-  
β-cyanoethylmercapto-phosphine

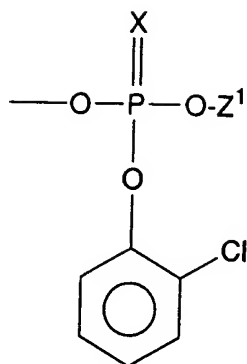


N,N-dimethylamino-  
2,4-dichlorobenzylmercapto-  
phosphine

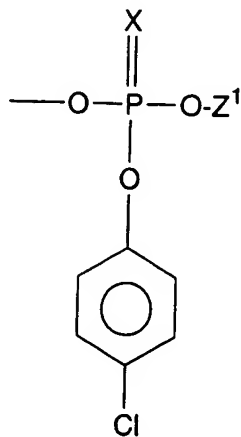


Bis(N,N-diisopropylamino)-  
phosphine

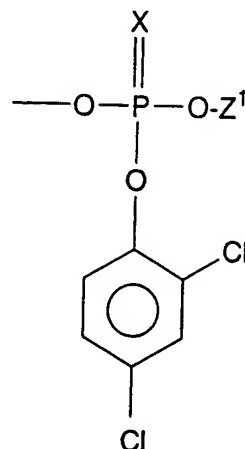
Figure 10-2



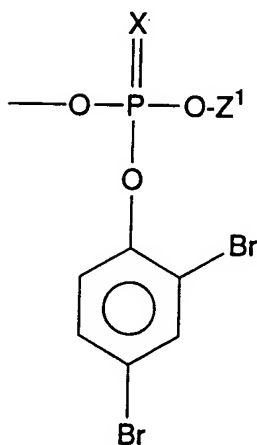
2-chlorophenyl  
phosphate



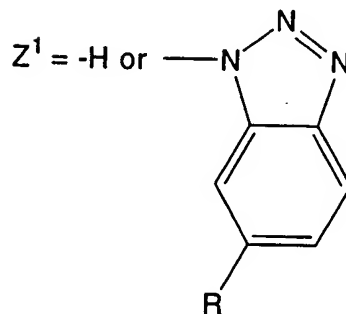
4-chlorophenyl  
phosphate



2,4-dichlorophenyl  
phosphate



2,4-dibromophenyl  
phosphate



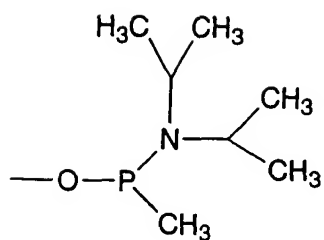
$Z^1 = -H$  or

$X = O$  or  $S$

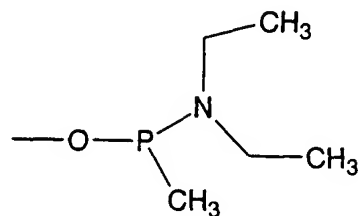
$R = H, NO_2$  and  $CF_3$

Figure 10-3





N,N-diisopropylamino-methyl-  
phosphine



N,N-diethylamino-methyl-  
phosphine

Figure 10-4

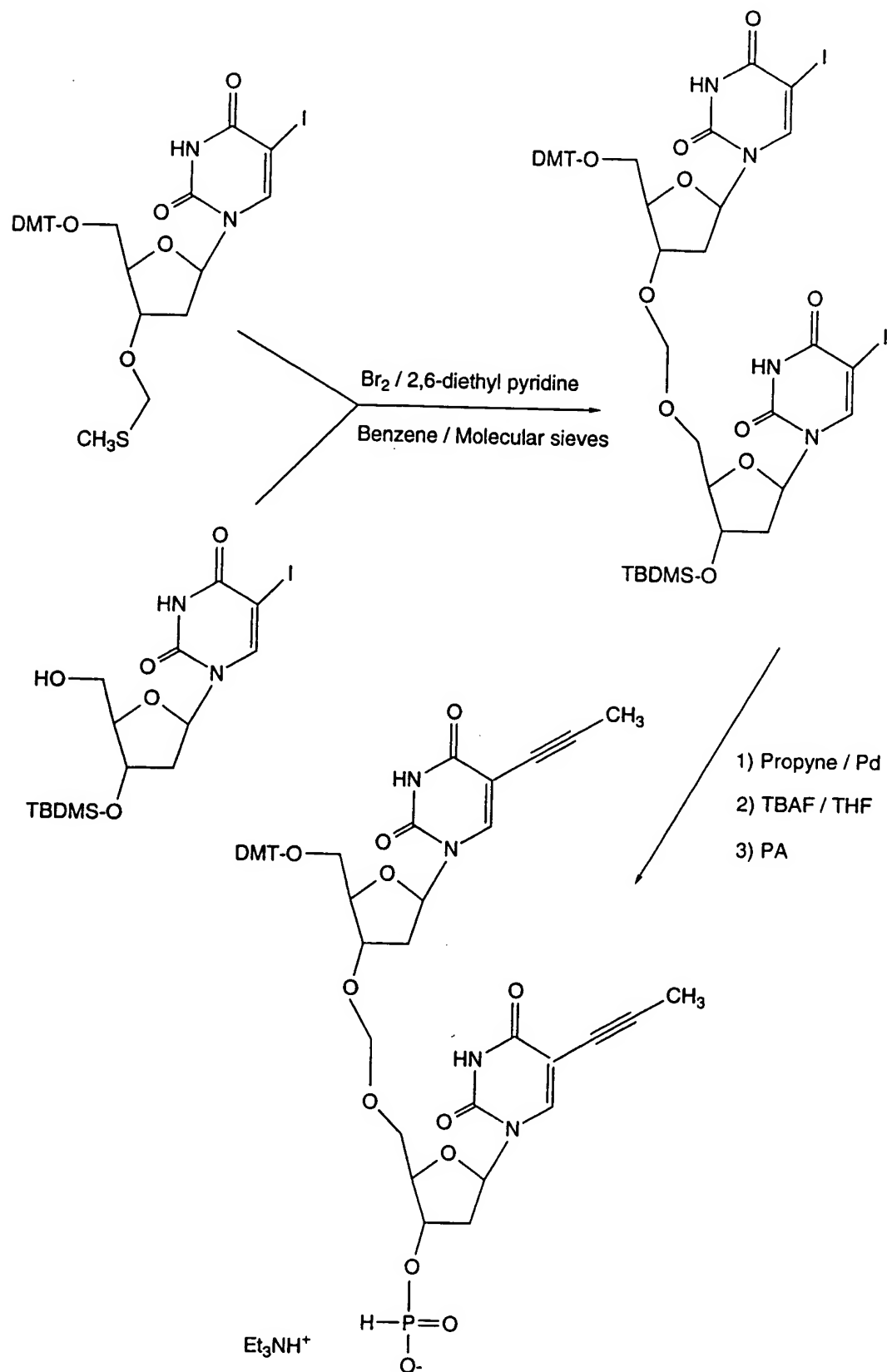


Figure 11

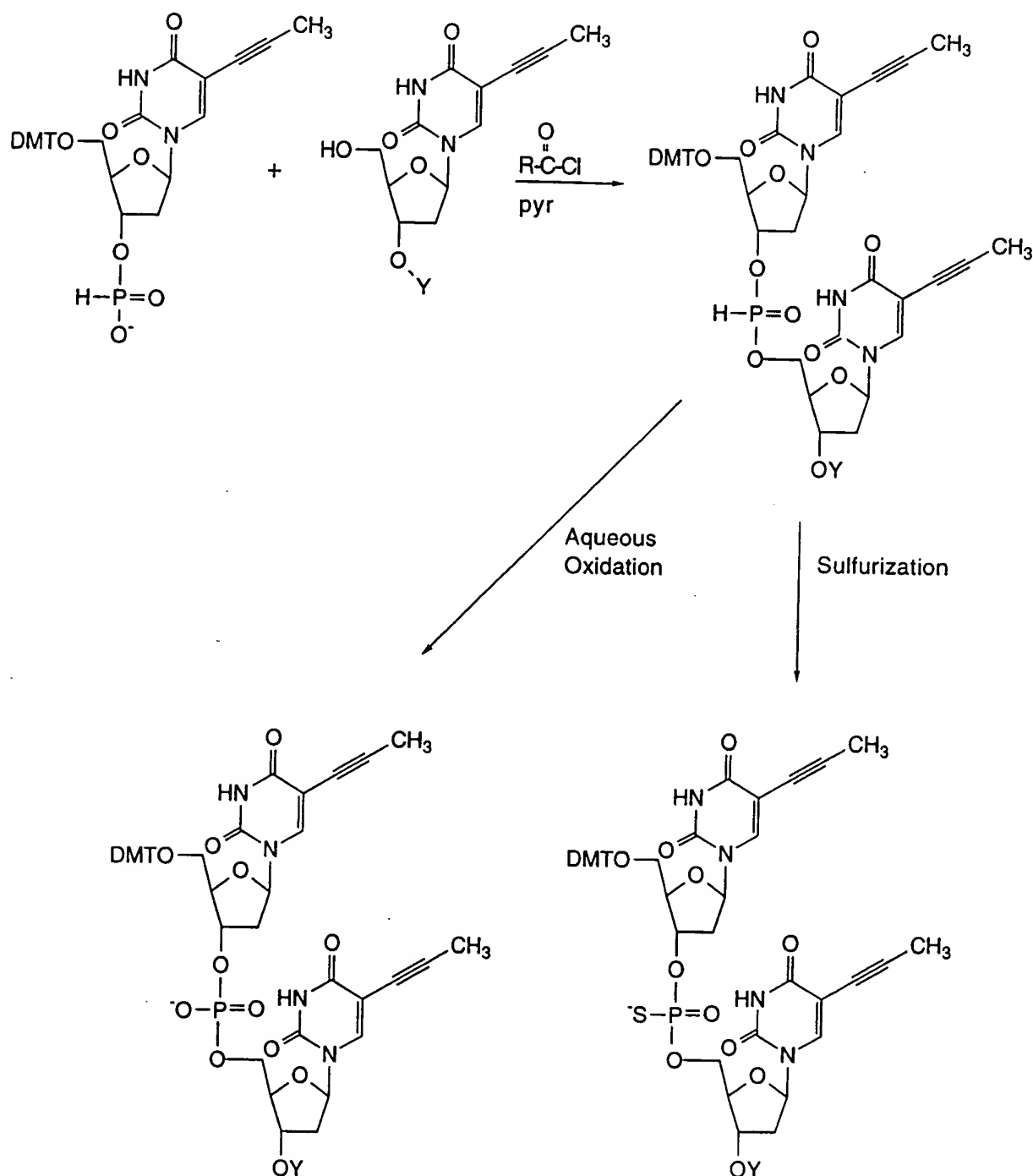


Figure 12-1

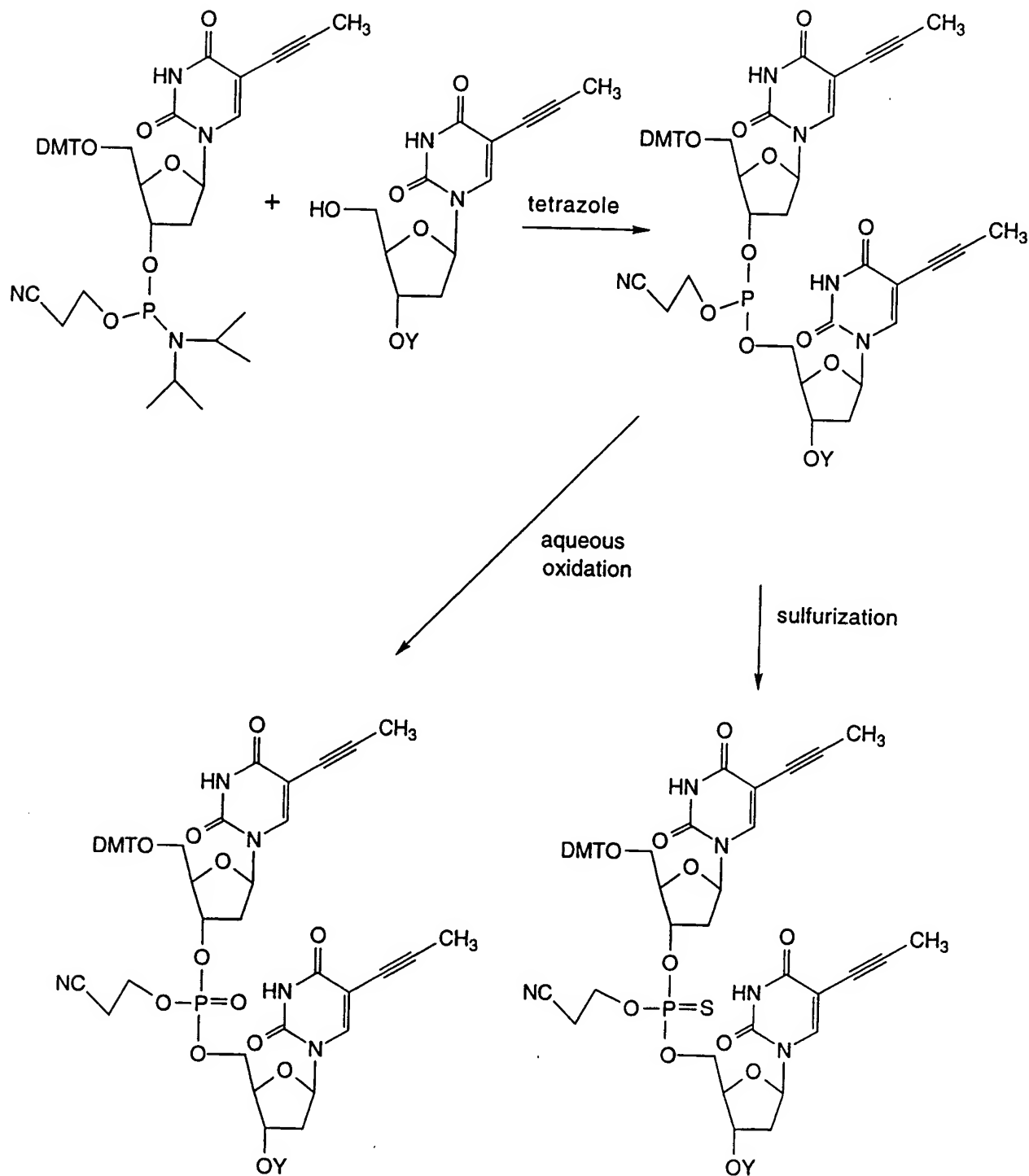


Figure 12-2

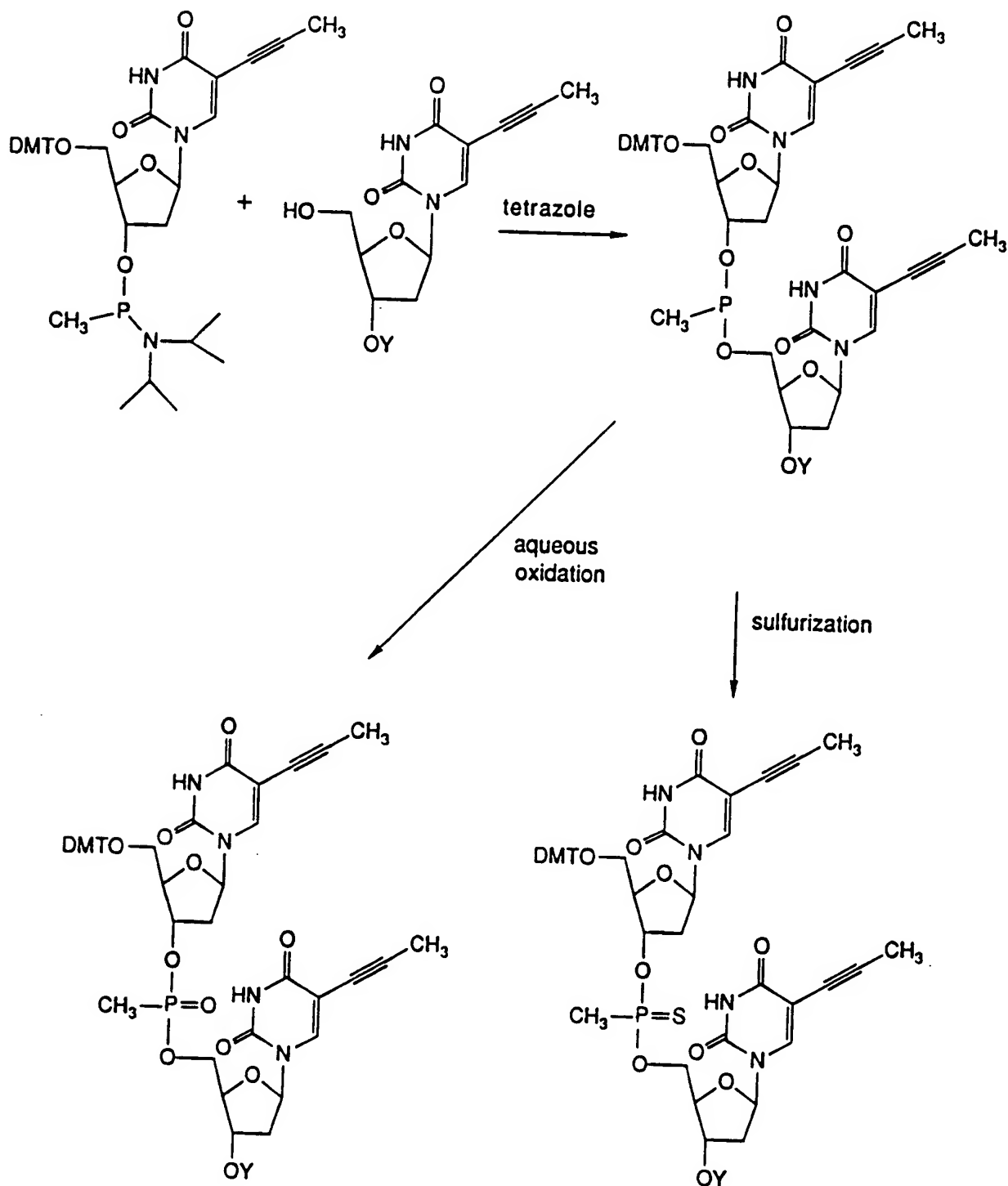


Figure 12-3

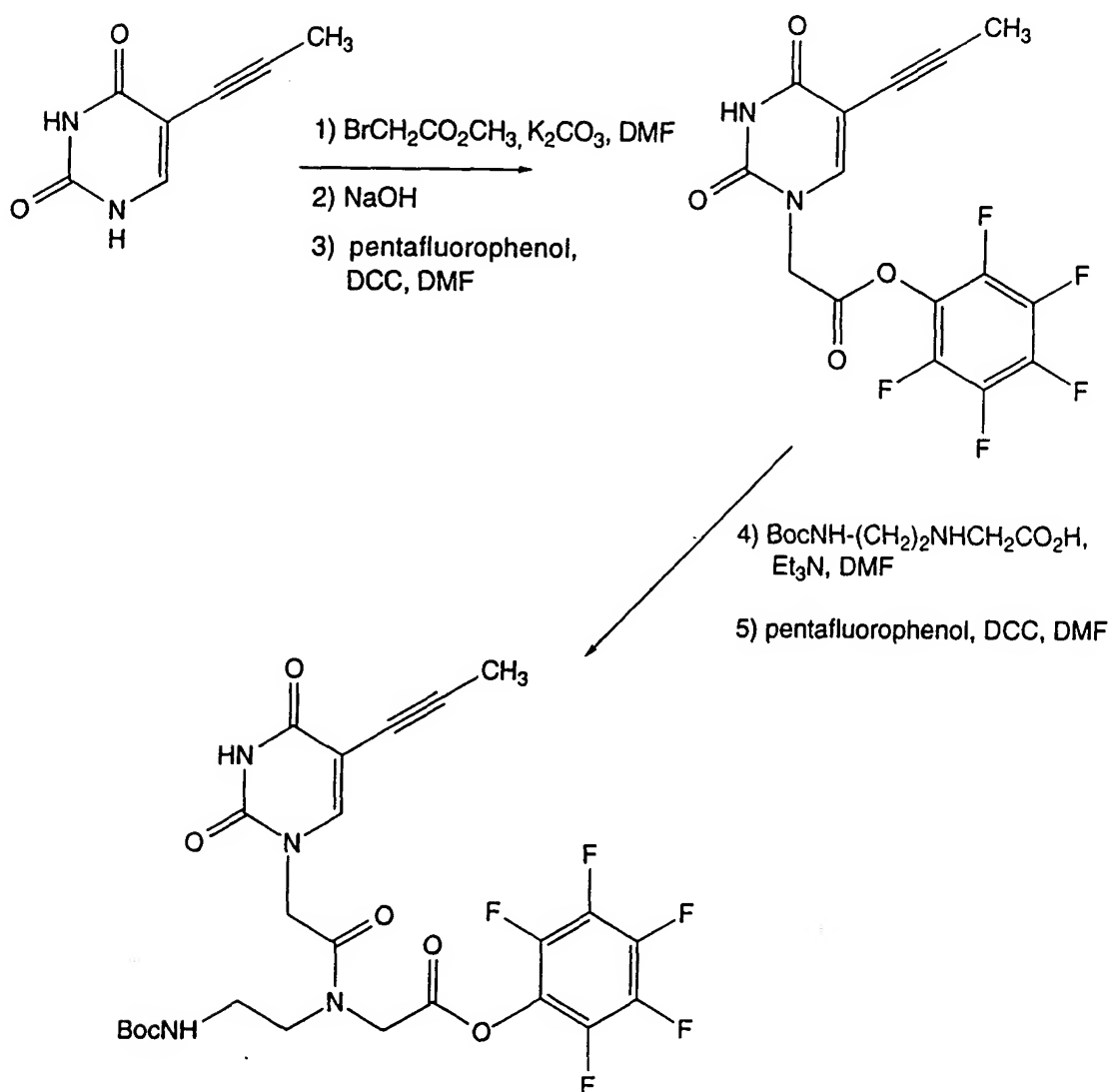


Figure 13

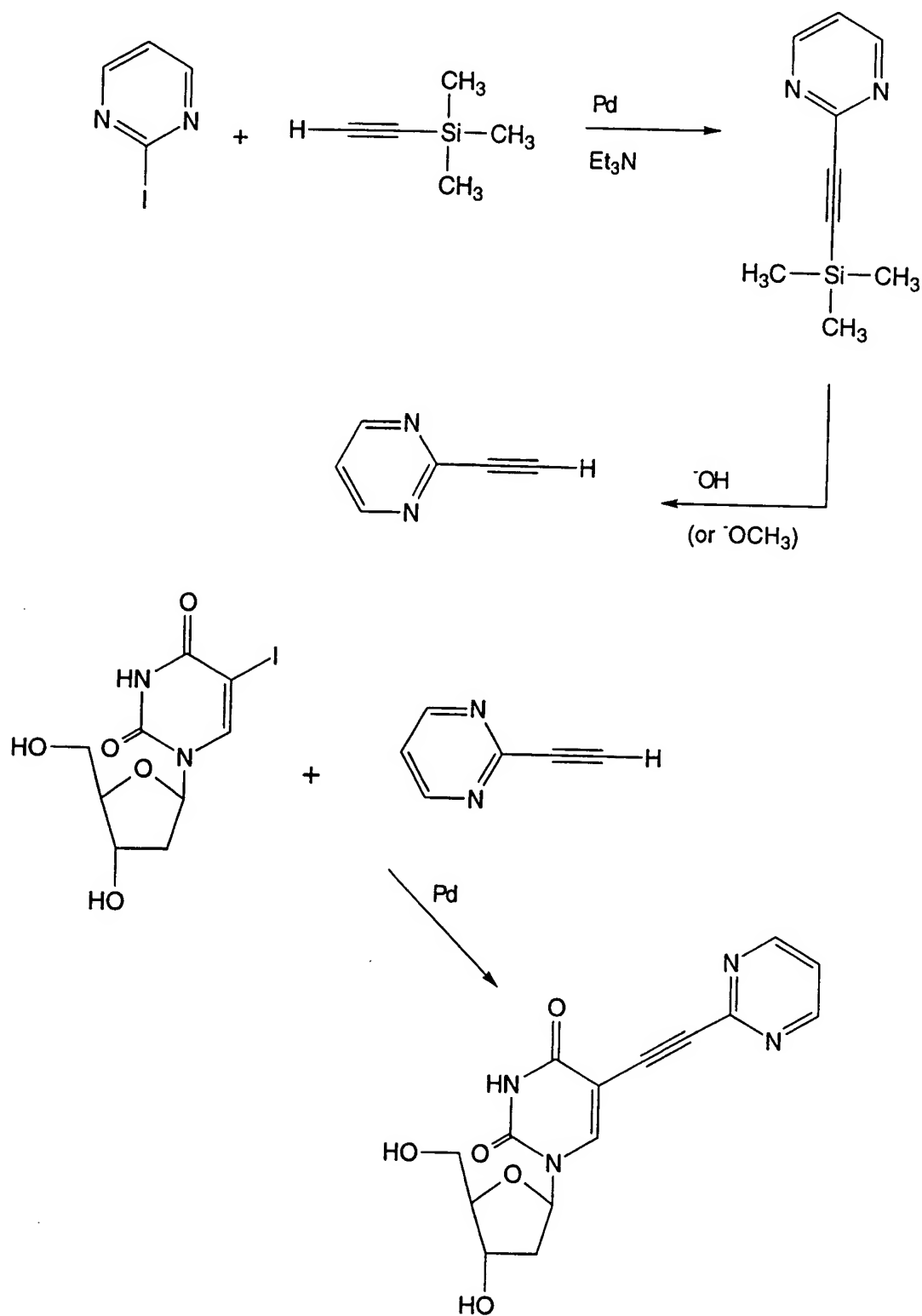


Figure 14

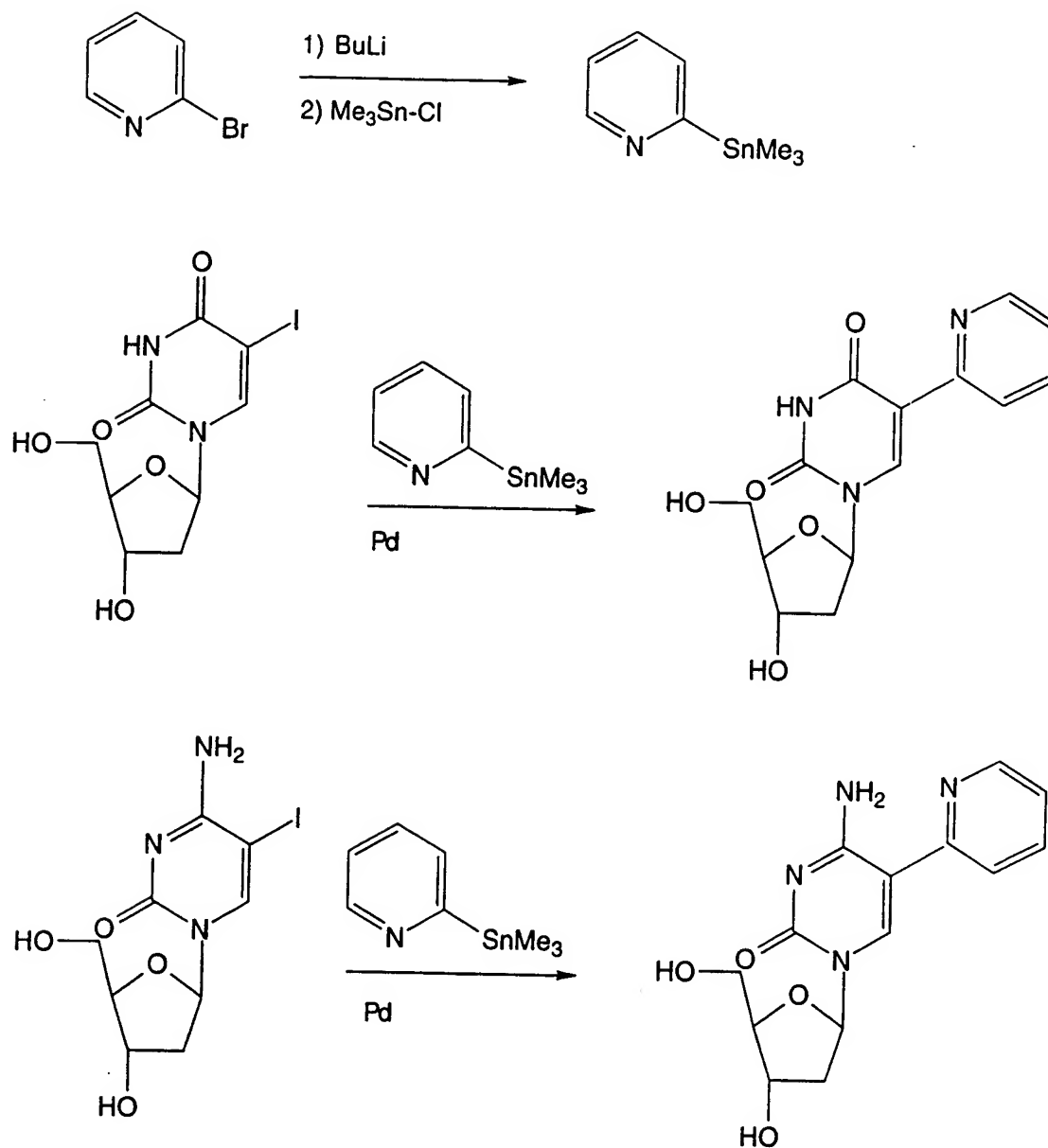


Figure 15



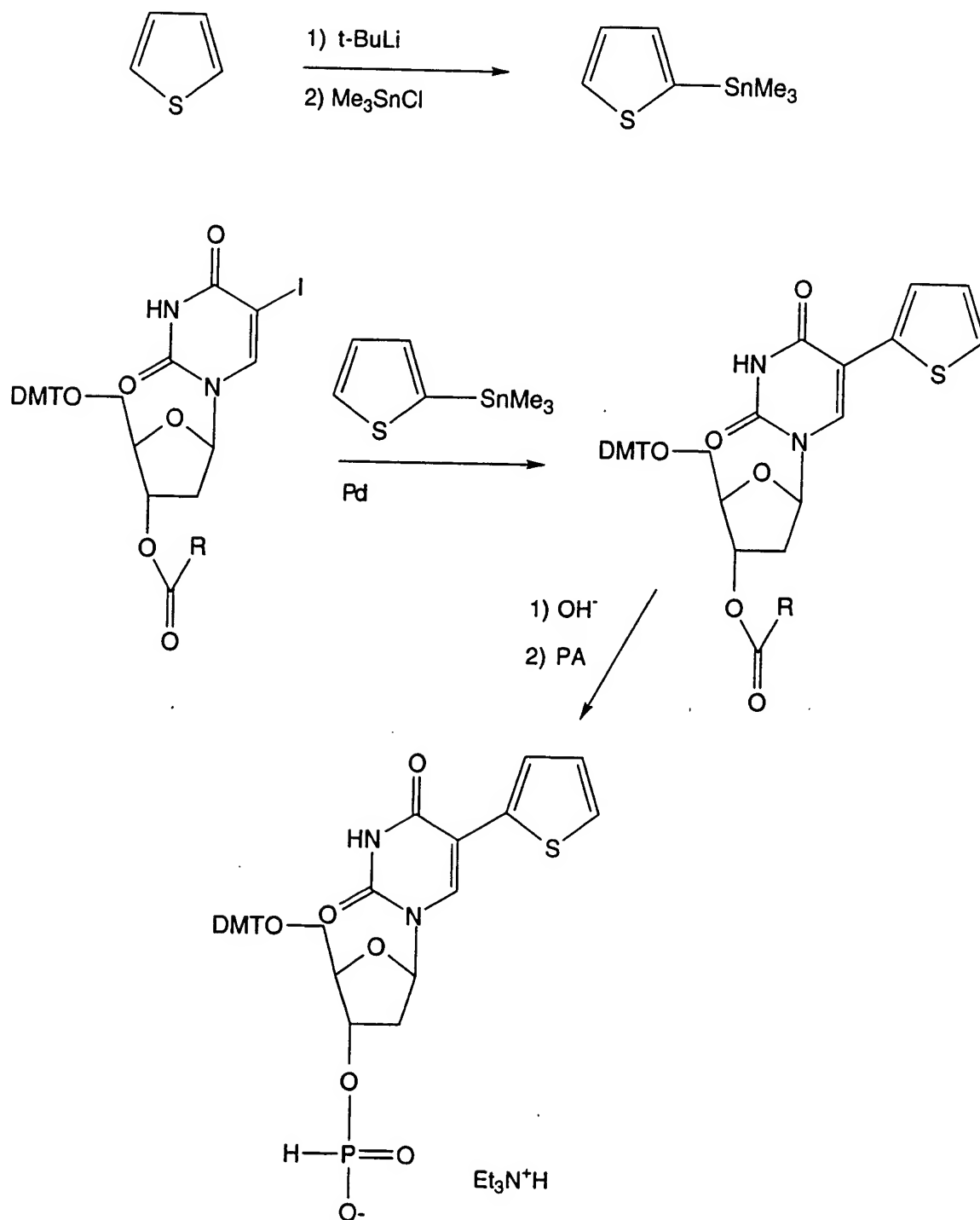


Figure 16

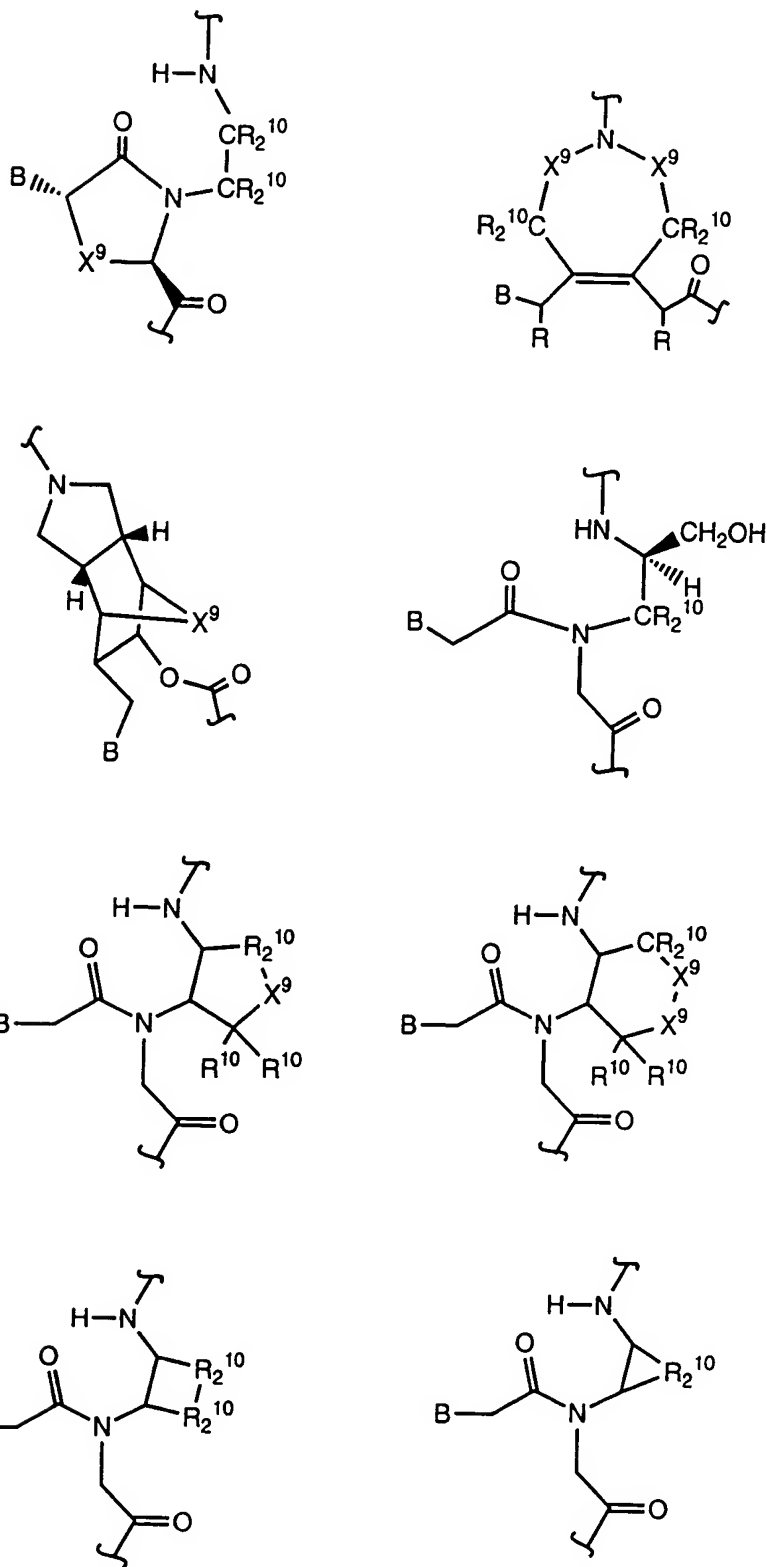


Figure 17-1

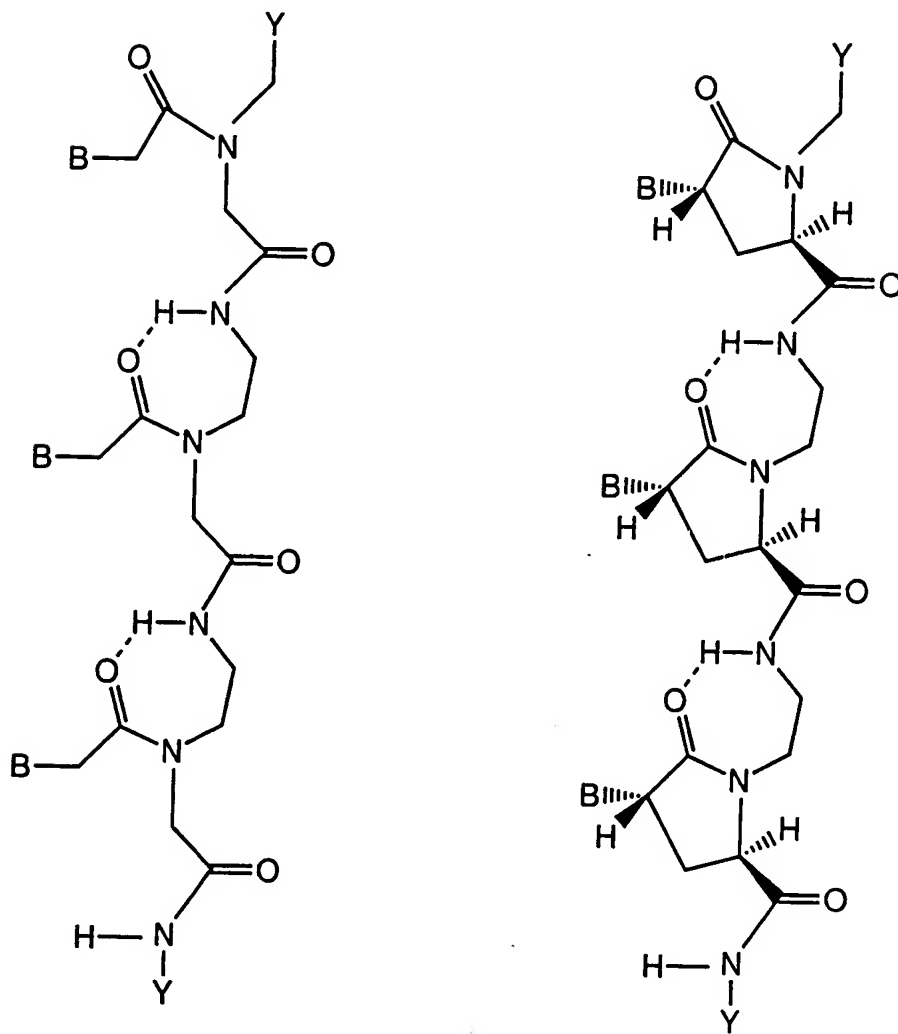


Figure 17-2

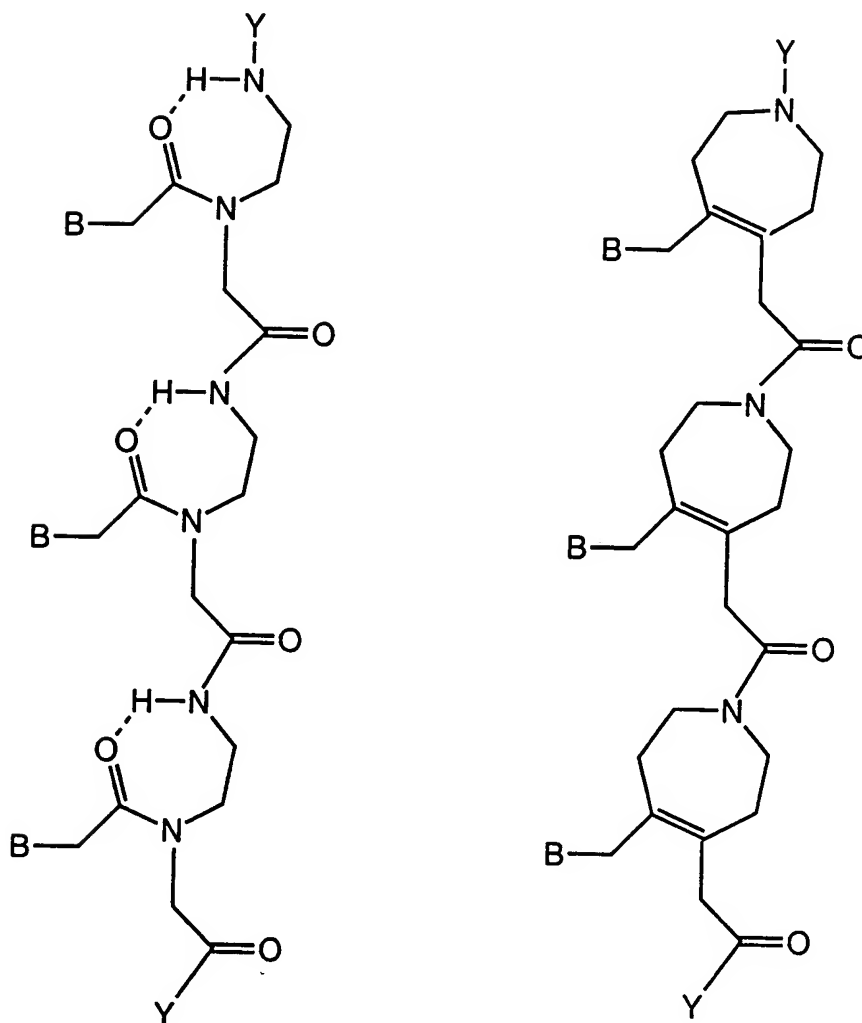


Figure 17-3

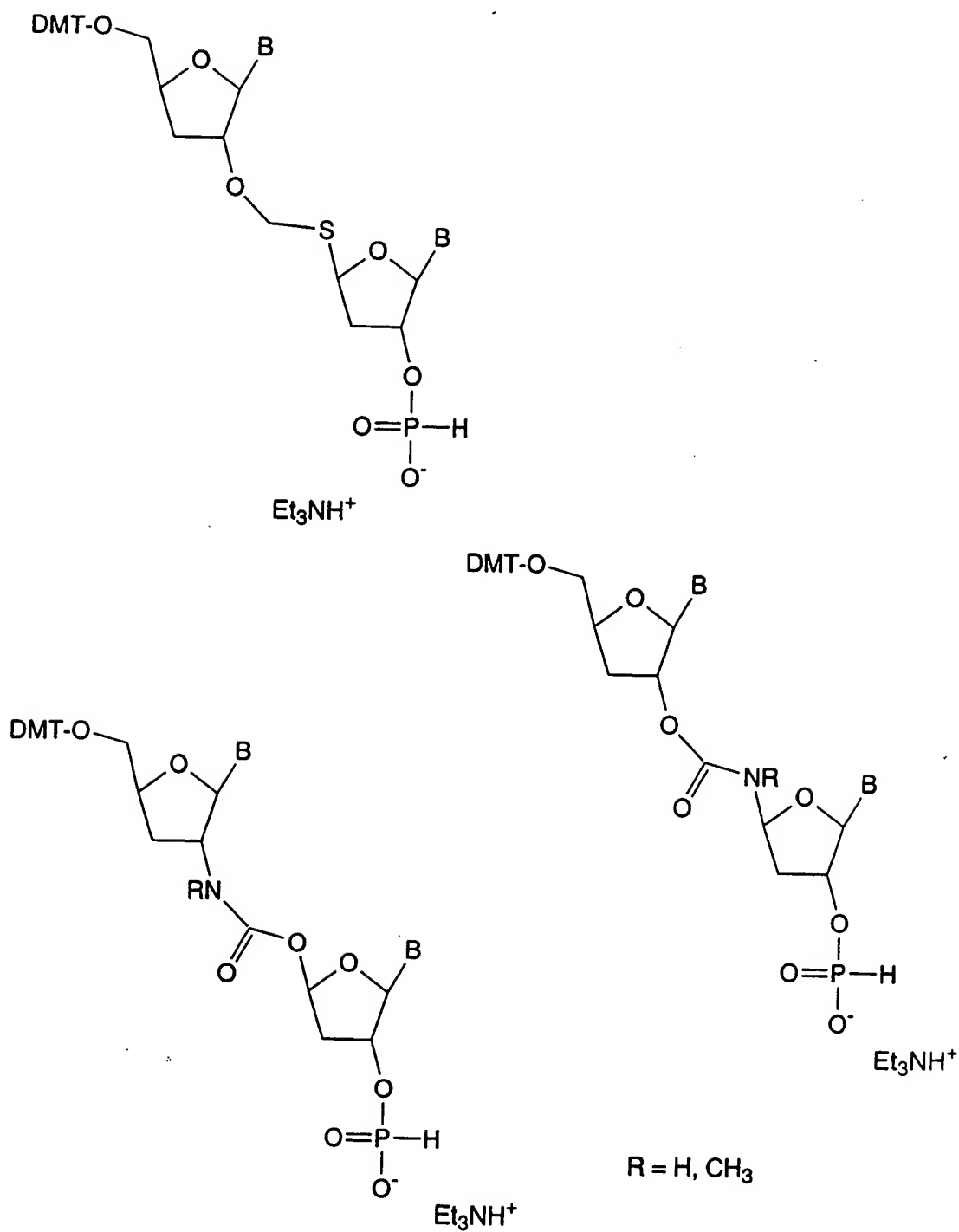


Figure 18